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Corrigendum

"γ Sorbitol as a diluent in tablets"

In Drug Development and Industrial Pharmacy 11, 551-564, some mistakes were introduced in the text ; so, would you please read the new pages 558-559 in place of the old ones.

558 According to the above mentioned litterature, it could be thought that the 86-87° C melting form is the α form and the 91.7° C melting form, the β form.

Each sort of Sorbitol has its own use in food or pharmaceutical industries. Regarding their use in their solid state as diluents in tablet formulation, it seems that the more stable form is the γ one.

We tested it for hygroscopicity and we compared it with the following :

S_1 (α + β + γ Sorbitol)
S_8 (much α + β)
S_{11} (very impure γ form)

After one month's storage at different relative humidities, we measured the water content increase of these four samples by the Karl Fischer method.

The results are displayed in table II.

TABLE II : The water content of different samples of Sorbitol after one month's storage at different relative humidities and at 20° C

Relative humidity	Time 0	After one month			
		22% RH	54% RH	70% RH	80% RH
Type of sorbitol :					
S_2 (γ)	0.40 %	0.10 %	1.20 %	3.10 %	17.90 %
S_1 (α+β+γ)	0.67 %	1.30 %	2.40 %	4.60 %	27.85 %
S_8 (much α+β)	0.25 %	0.20 %	0.50 %	4.80 %	21.00 %
S_{11} (very impure γ form)	0.80 %	0.85 %	1.30 %	4.75 %	24.90 %

Considering these results, we selected a pure γ Sorbitol for tablet formulation study.

II. Compression and tablet study of tablets prepared with γ Sorbitol

II.1. Compression study

TABLE III : Compression parameters of Sorbitol and Lactose tablets
x = upper punch displacement (volume of compression chamber remaining constant : depth = 1 cm)
y_1 = maximum upper punch stress (KN)
y_2 = maximum lower punch stress (KN)
y_2/y_1 = is indicative of stress transmission through the powder during the compression

Drug	Disintegrant	Diluant	x	$\bar{y}_1$ m	C.V.	$\bar{y}_2$ m	C.V.	y_2/y_1
Aspirin	Maïze Starch	Sorbitol	408	10.4	2.1%	7.8	2.3%	0.75
		Lactose	418	9.8	2.0%	7.9	2.2%	0.81
	Kollidon CL	Sorbitol	324	5.2	4.8%	4.2	5.0%	0.81
		Lactose	435	5.6	5.0%	4.3	4.0%	0.78
	Ac Di Sol	Sorbitol	403	5.8	5.4%			
		Lactose	403	5.4	4.4%			
Ascorbic Acid	Maïze Starch	Sorbitol	352	10.7	3.5%	9.1	3.4%	0.85
		Lactose	364	9.9	1.5%	8.6	1.4%	0.87
	Kollidon CL	Sorbitol	456	9.1	3.2%	7.6	3.2%	0.83
		Lactose	487	11.1	2.8%	9.2	2.8%	0.84
	Ac Di Sol	Sorbitol	390	12.0	1.8%			
		Lactose	403	5.8	5.4%			

Sorbitol/Lactose comparison : Except for the Ascorbic Acid/Ac Di Sol tablets, the results are nearly the same but for a sound discussion they must be compared with hardness values of resulting tablets.

II.2. Hardness

TABLE IV : Hardness of Sorbitol and Lactose tablets (in KN)

			Hardness m	C.V.	Hardness / y_1
Aspirin	Maïze Starch	Sorbitol	124	7.7%	1.19
		Lactose	90	10.8%	0.91
	Kollidon CL	Sorbitol	64	11 %	1.22
		Lactose	60	11.8%	1.07
	Ac Di Sol	Sorbitol	87	11.3%	1.51
		Lactose	50	11.8%	0.92
Ascorbic Acid	Maïze Starch	Sorbitol	54	8.3%	0.51
		Lactose	29	8.3%	0.29
	Kollidon CL	Sorbitol	65	10.7%	0.71
		Lactose	56	11.6%	0.51
	Ac Di Sol	Sorbitol	91	8 %	0.76
		Lactose	52	12.9%	0.44